

and 5, without prejudice, because exemplary expressions can be construed as indefinite. Nevertheless, it should be understood that the transmitting/receiving medium can be an optical fiber. No new matter has been added.

Claims 1-6 were rejected under 35 USC 103(a) as being unpatentable over Japanese patent abstract 10054917 of Yasuyuki et al. in view of US patent 6,350,064 of Mitsuda et al. These rejections are traversed.

In the rejection of claim 1, the Examiner erroneously argues that Mitsuda teaches a light-blocking resin as recited in claim 1. Claim 1, as amended, includes the recitation of "a second light-blocking resin, which covers a light-receiving coupling part that couples said light receiving element and said second optical waveguide." The light-receiving coupling part 13a is a path or volume leading from the waveguide to the photodiode 7, as shown in Fig. 2 of the present specification. As recited in claim 1, the light-blocking resin covers the light-receiving coupling part 13a; the light-blocking resin of the present invention does not necessarily cover the photodiode 7 (although it may). The light-blocking resin of the present invention provides greatly enhanced performance because it covers almost the entire volume (the light receiving coupling part) from which light is accepted into the photodiode 7. This provides exceptional reduction in unwanted signals entering the photodiode.

Mitsuda et al. also teach using a light-blocking resin, but it is placed in a very different location, and hence, it is used in a very different way. Specifically, Mitsuda et al. teach that the light-blocking resin covers the photodiode 17, not the path leading to the photodiode (i.e., not the light-receiving coupling part 13a). Mitsuda et al. explain in col. 9, lines 10-15:

"The resin 22 covers the lower surface (*except for the light-receiving portion*), side face closer to the laser device (on the left hand side in Fig. 1(a)), side face opposite to the laser device (on the right-hand side in Fig. 1(a)), and upper surface of the device 17."

Mitsuda et al. does NOT teach or in any way suggest that the light-blocking resin

covers the light-receiving coupling part 13a, as recited in present claim 1. As noted above, the light-receiving coupling part is the volume extending between the waveguide and the photodiode. The light-receiving coupling part is distinct from the photodiode. Mitsuda et al., in fact, tend to teach away from the present invention because they state that the resin covers the lower surface of the photodiode, *except for the light receiving portion* (emphasis added). By comparison, the light-blocking resin of the present invention *does* cover the light receiving portion of the photodiode in that it covers the coupling part (which covers the light receiving portion of the photodiode). It is noted that the light-blocking resin of the present invention is not in direct contact with the light receiving surface of the photodiode. Since the light-blocking resin covers the coupling part, the photodiode is efficiently shielded from unwanted light.

The Examiner is silent with regard to another essential limiting element recited in claim 1, which, as amended, recites: "a first light-blocking resin, which covers a light-emitting coupling part that couples said laser light-emitting element and said first optical waveguide". In comparison, Mitsuda et al. is completely lacking any teaching or suggestion to cover with light-blocking resin a coupling part between the laser and waveguide. In fact, Mitsuda et al. do not in any way suggest that the laser can be covered with light-blocking resin. The Examiner is respectfully reminded that, in making a rejection, all the claim elements must be considered (see MPEP 2141.02). In view of the above, Mitsuda et al. completely fails to teach or suggest the light-blocking resin structures recited in claim 1. Also, the Examiner has acknowledged in the Office Action that Yasuyuki et al. do not teach light-blocking resin. Hence, claim 1 and its dependent claims should not be rejected on the basis of any possible combination of Yasuyuki and Mitsuda, and the rejection of these claims should now be withdrawn.

Furthermore, it is noted that the combination of Yasuyuki et al. and Mitsuda et al. proposed by the Examiner is improper in that Yasuyuki et al. teach away from the combination proposed by the Examiner. Specifically, the Examiner argues that the light blocking resin of Mitsuda et al. could be disposed on the laser (LD) and

photodiode (PD) of Yasuyuki et al to arrive at the present claims. A problem with this combination is that the light-blocking resin of Mitsuda et al. cannot be disposed on the LD and PD because a plate 24 is shown covering the LD and PD in Yasuyuki. The plate 24 of Yasuyuki et al. will prevent light-blocking resin from covering the LD and PD. Yasuyuki et al. is silent as to whether the plate is removable or optional. Hence, the disclosure of Yasuyuki tends to teach away from using light-blocking resin of Mitsuda et al, as suggested by the Examiner.

The Examiner erroneously rejected claim 3 with the argument that including transparent resin in the 'coupling parts' between the laser, photodiode and waveguides, respectively, and covering the transparent resin with light-blocking resin, is obvious. The Examiner provides no references for this assertion. It is further noted that Mitsuda et al. is silent about fabricating a transparent light path between the waveguide and the photodiode. Hence no motivation for this alteration exists. It is noted that providing transparent resin in the 'coupling parts', and covering the transparent resin with light-blocking resin is a structure not taught or suggested by any of the prior art references of record. The resin structure of claim 3 provides particular advantages of manufacturability since the light-blocking resin can be disposed on the transparent resin without blocking the light path between the laser and waveguide, or between the waveguide and photodiode. The Examiner is respectfully reminded that a rejection cannot be made based on hindsight gleaned from the applicants specification (see MPEP 2141.01-III).

The Examiner also rejected claim 4 as being obvious in view of the teachings of Mitsuda et al. This rejection is in error because, as explained above, Mitsuda et al. does not teach the use of light-blocking resin to cover a 'coupling part' as recited in claim 1, and because Mitsuda et al. does not teach the use of a monitoring device "...disposed at a rear of said laser...", as recited in claim 1. Mitsuda et al. lacks any suggestion to meet the limitations set forth in claim 4.

The Examiner also rejected claim 5. This rejection was apparently made under 35 USC 102(a) (although it is not so stated), since Mitsuda et al. is not relied upon in rejecting claim 5. The Examiner erroneously argues that Yasuyuki et al.

teach "a light-blocking plate disposed above said first optical waveguide...", as recited in claim 5. The Examiner identifies the "filter 13" of Yasuyuki et al. as anticipating the light-blocking plate of claim 5. This argument and rejection are in error for three reasons as follows: (1) The filter 13 of Yasuyuki et al. is a *filter*, not a light-blocking plate, as recited in claim 5. (2) The filter 13 of Yasuyuki et al. is disposed in a slot so that it intercepts, and provides a filtering function for a waveguide port 14. The filter 13 of Yasuyuki et al. is not "...disposed above said first optical waveguide...", as recited in claim 5. (3) The filter 13 of Yasuyuki et al. is not disposed so that it "...blocks transmitted light missing said light-emitting coupling part...". In fact, the filter cannot possibly block light that *misses* the coupling part because the laser (LD) of Yasuyuki et al. is covered by the plate 24, and because the filter 13 is disposed to intercept light traveling *within* the waveguide port 14. For these reasons, the teaching of Yasuyuki et al. are completely different from the present invention as claimed in claim 5, and the rejection of claim 5 must be withdrawn.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-6 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees for the petition or for entry of this amendment to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson P.C.).

Respectfully submitted,



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